

**A. AMENDMENTS TO CLAIMS**

Please cancel Claims 18 and 28, add new Claims 44-49, and amend the claims as indicated hereinafter.

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1 ~~1 - 9 (CANCELED)~~

1 10. (CURRENTLY AMENDED) A method for communicating at least first and second

2 digital data streams over a communications link from a source to a destination

3 comprising:

4 receiving said first data stream, said first data stream being a synchronous data stream

5 having a first average data bit rate;

6 clocking said first data stream into a first FIFO buffer;

7 receiving said second data stream, said second data stream being an asynchronous data

8 stream having a second average data bit rate;

9 clocking said second data stream into a second FIFO buffer;

10 transmitting, over said communications link, an output bit stream, at an output data bit

11 rate,

12 wherein the output bit stream includes bits output from the first data rate buffer and the

13 output bit stream also includes bits from the second data rate buffer, and

14 wherein each J<sup>th</sup> bit of a sequential plurality of bits in the first data stream are bits

15 sequentially output from the first FIFO buffer, to define first bits of the output bit

16 stream, and wherein at least one bit of the sequential plurality of bits, other than

17 the first bits, is output from the second FIFO buffer, wherein the sequential

18 plurality of time periods includes at least first and second subpluralities of time  
19 periods.

1 11. ~~(CANCELED)~~

1 12. (ORIGINAL) A method as claimed in claim 10 wherein said output bit stream includes  
2 time division multiplexing of at least said first data stream and second data stream.

1 13 - 19. ~~(CANCELED)~~

1 20. (CURRENTLY AMENDED) Apparatus for communicating at least first and second  
2 digital data streams over a communications link from a source to a destination, said first  
3 data stream being a synchronous data stream having a first average data bit rate, said  
4 second data stream being an asynchronous data stream having a second average data bit  
5 rate, comprising:

6 means for clocking said first data stream into a first FIFO buffer;

7 means for clocking said second data stream into a second FIFO buffer;

8 means for transmitting, over said communication link, an output bit stream, at an output  
9 data bit rate,

10 wherein the output bit stream includes bits output from the first data rate buffer and the

11 output bit stream also includes bits from the second data rate buffer, and

12 wherein each J<sup>th</sup> bit of a sequential plurality of bits in said first data stream are bits

13 sequentially output from the first FIFO buffer, to define first bits of said output bit

14 stream, and wherein at least one bit of said sequential plurality of bits, other than

15 said first bits, is output from the second FIFO buffer.

1 21. (CANCELED)

1 22. (ORIGINAL) Apparatus as claimed in claim 20 wherein said output bit stream is  
2 provided by time division multiplexing of at least said first data stream and second data  
3 stream.

1 23 - 29. (CANCELED)

1 30. (CURRENTLY AMENDED) A computer-readable medium for communicating at least  
2 first and second digital data streams over a communications link from a source to a  
3 destination, the computer-readable medium carrying one or more sequences of  
4 instructions which, when executed by one or more processors, cause the one or more  
5 processors to perform the steps of:  
6 receiving the first data stream, the first data stream being a synchronous data stream  
7 having a first average data bit rate;  
8 clocking the first data stream into a first FIFO buffer;  
9 receiving the second data stream, the second data stream being an asynchronous data  
10 stream having a second average data bit rate;  
11 clocking the second data stream into a second FIFO buffer;  
12 transmitting, over the communications link, an output bit stream, at an output data bit  
13 rate,  
14 wherein the output bit stream includes bits output from the first data rate buffer and the  
15 output bit stream also includes bits from the second data rate buffer, and  
16 wherein each  $J^{\text{th}}$  bit of a sequential plurality of bits in the first data stream are bits  
17 sequentially output from the first FIFO buffer, to define first bits of the output bit

18 stream, and wherein at least one bit of the sequential plurality of bits, other than  
19 the first bits, is output from the second FIFO buffer, wherein the sequential  
20 plurality of time periods includes at least first and second subpluralities of time  
21 periods.

1 31. (PREVIOUSLY PRESENTED) A computer-readable medium as recited in Claim 30,  
2 further comprising one or more additional instructions which, when executed by the one  
3 or more processors, cause the one or more processors to cause the output bit stream to  
4 include time division multiplexing of at least the first data stream and the second data  
5 stream.

1 32. (CURRENTLY AMENDED) A method for communicating at least first and second  
2 digital data streams over a communications link from a source to a destination  
3 comprising:  
4 receiving the first data stream, the first data stream being a synchronous data stream  
5 having a first average data bit rate;  
6 clocking the first data stream into a first data rate buffer;  
7 receiving the second data stream, the second data stream being an asynchronous data  
8 stream having a second average data bit rate;  
9 clocking the second data stream into a second data rate buffer;  
10 wherein the first and second data rate buffers define a next out data bit for outputting in  
11 response to a clock-out signal; and  
12 transmitting, over the communication link, an output bit stream, at an output data bit rate,  
13 wherein the output bit stream includes bits output from the first data rate buffer and the  
14 output bit stream also includes bits from the second data rate buffer,

15 wherein the output bit stream includes at least a sequential plurality of time periods for  
16 transmitting a data bit during each of the sequential plurality of time periods,  
17 and wherein the transmitting includes

18 a) outputting the next out data bit from the first data rate buffer and transmitting  
19 the next out data bit on the communications link during one of a first  
20 subplurality of the sequential plurality of time periods;

21 b) following step a, transmitting a bit, during one of a second subplurality of the  
22 sequential plurality of time periods; and

23 repeating steps a and b to define a plurality of iterations of step a and step b  
24 wherein at least some of the bits transmitted during iterations of step b  
25 are output from the second data rate buffer.

31 33. (PREVIOUSLY PRESENTED) A method as recited in claim 32, wherein the output bit  
32 stream includes time division multiplexing of at least the first data stream and second  
33 data stream.

34 34. (PREVIOUSLY PRESENTED) A method as recited in Claim 32, wherein all bits  
35 transmitted during iterations of step b are output from the second data rate buffer.

36 35. (PREVIOUSLY PRESENTED) A method as recited in Claim 32, wherein the first  
37 subplurality of the sequential plurality of time periods comprises every other time  
38 period of the sequential plurality of time periods.

39 36. (CURRENTLY AMENDED) An apparatus for communicating at least first and second  
40 digital data streams over a communications link from a source to a destination, the first  
41 data stream being a synchronous data stream having a first average data bit rate, the

4 second data stream being an asynchronous data stream having a second average data bit  
5 rate, comprising:  
6 means for clocking the first data stream into a first ~~FIFO~~ data rate buffer;  
7 means for clocking the second data stream into a second ~~FIFO~~ data rate buffer;  
8 wherein the first and second data rate buffers define a next out data bit for outputting in  
9 response to a clock-out signal; and  
10 means for transmitting, over the communication link, an output bit stream, at an output  
11 data bit rate,  
12 wherein the output bit stream includes bits output from the first data rate buffer and the  
13 output bit stream also includes bits from the second data rate buffer,  
14 wherein the output bit stream includes at least a sequential plurality of time periods for  
15 transmitting a data bit during each of the sequential plurality of time periods,  
16 and wherein the means for transmitting ~~comprises:~~ is configured to:  
17 a) ~~means for outputting output~~ the next out bit from the first ~~FIFO~~ data rate  
18 buffer and transmit the next out data bit on the communications link  
19 during one of a first subplurality of time periods of the sequential  
20 plurality of time periods;  
21 b) ~~means for transmitting~~ following step a, transmit a bit, during one of a  
22 second subplurality of time periods of the sequential plurality of time  
23 periods;  
24 ~~means for causing~~ cause steps a and b to be repeated so that at least some of the  
25 bits transmitted during one of the second subplurality of time periods are  
26 output from the second ~~FIFO~~ data rate buffer.

1 37. (PREVIOUSLY PRESENTED) An apparatus as recited in claim 36, wherein the output  
2 bit stream is provided by time division multiplexing of at least the first data stream and  
3 second data stream.

1 38. (CURRENTLY AMENDED) An apparatus as recited in Claim 36, wherein all bits  
2 transmitted during any of the second subplurality of time periods are output from the  
3 second ~~FIFO~~ data rate buffer.

1 39. (PREVIOUSLY PRESENTED) An apparatus as recited in Claim 36, wherein the first  
2 subplurality of time periods includes every other time period of the sequential plurality  
3 of time periods.

B  
1 40. (CURRENTLY AMENDED) A computer-readable medium for communicating at least  
2 first and second digital data streams over a communications link from a source to a  
3 destination, the computer-readable medium carrying one or more sequences of one or  
4 more instructions which, when executed by one or more processors causes the one or  
5 more processors to perform the steps of:

6 receiving the first data stream, the first data stream being a synchronous data stream

7 having a first average data bit rate;

8 clocking the first data stream into a first data rate buffer;

9 receiving the second data stream, the second data stream being an asynchronous data

10 stream having a second average data bit rate;

11 clocking the second data stream into a second data rate buffer;

12 wherein the first and second data rate buffers define a next out data bit for outputting in

13 response to a clock-out signal; and

14 transmitting, over the communication link, an output bit stream, at an output data bit rate,  
15 wherein the output bit stream includes bits output from the first data rate buffer and the  
16 output bit stream also includes bits from the second data rate buffer,  
17 wherein the output bit stream includes at least a sequential plurality of time periods for  
18 transmitting a data bit during each of the sequential plurality of time periods,  
19 and wherein the transmitting includes  
20 a) outputting the next out data bit from the first data rate buffer and transmitting  
21 the next out data bit on the communications link during one of a first  
22 subplurality of the sequential plurality of time periods;  
23 b) following step a, transmitting a bit, during one of a second subplurality of the  
24 sequential plurality of time periods; and  
25 repeating steps a and b to define a plurality of iterations of step a and step b  
26 wherein at least some of the bits transmitted during iterations of step b  
27 are output from the second data rate buffer.

1 41. (PREVIOUSLY PRESENTED) A computer-readable medium as recited in claim 40,  
2 further comprising one or more additional instructions which, when executed by the one  
3 or more processors, cause the one or more processors to cause the output bit stream to  
4 include time division multiplexing of at least the first data stream and the second data  
5 stream.

1 42. (PREVIOUSLY PRESENTED) A computer-readable medium as recited in Claim 40,  
2 wherein all bits transmitted during iterations of step b are output from the second data  
3 rate buffer.



1 43. (PREVIOUSLY PRESENTED) A computer-readable medium as recited in Claim 40,  
2 wherein the first subplurality of the sequential plurality of time periods comprises every  
3 other time period of the sequential plurality of time periods.

1 44. (NEW) An apparatus for communicating at least first and second digital data streams  
2 over a communications link from a source to a destination, the first data stream being a  
3 synchronous data stream having a first average data bit rate, the second data stream being  
4 an asynchronous data stream having a second average data bit rate, the apparatus  
5 comprising:

6 a first FIFO buffer configured to receive the first data stream;

7 a second FIFO buffer configured to receive the second data stream;

8 a transmitter configured to transmit an output bit stream over the communications link at  
9 an output data bit rate;

10 wherein the output bit stream includes bits output from the first data rate buffer and the

11 output bit stream also includes bits from the second data rate buffer, and

12 wherein each  $J^{\text{th}}$  bit of a sequential plurality of bits in the first data stream are bits

13 sequentially output from the first FIFO buffer, to define first bits of the output bit

14 stream, and wherein at least one bit of the sequential plurality of bits, other than

15 the first bits, is output from the second FIFO buffer.

1 45. (NEW) The apparatus as claimed in claim 20, further comprising a time division  
2 multiplexer configured to generate the output bit stream by time division multiplexing at  
3 least the first data stream and second data stream.

1 46. (NEW) An apparatus for communicating at least first and second digital data streams  
2 over a communications link from a source to a destination, the first data stream being a  
3 synchronous data stream having a first average data bit rate, the second data stream being  
4 an asynchronous data stream having a second average data bit rate, the apparatus  
5 comprising:  
6 a first data rate buffer configured to receive the first data stream;  
7 a second data rate buffer configured to receive the second data stream;  
8 wherein the first and second data rate buffers define a next out data bit for outputting in  
9 response to a clock-out signal; and  
10 a transmitter configured to transmit an output bit stream over the communication link at  
11 an output data bit rate,  
12 wherein the output bit stream includes bits output from the first data rate buffer and the  
13 output bit stream also includes bits from the second data rate buffer,  
14 wherein the output bit stream includes at least a sequential plurality of time periods for  
15 transmitting a data bit during each of the sequential plurality of time periods,  
16 and wherein the transmitter is further configured to:  
17 a) output the next out bit from the first data rate buffer and transmitting the next  
18 out data bit to the communications link during one of a first subplurality  
19 of time periods of the sequential plurality of time periods;  
20 b) following step a, transmit a bit, during one of a second subplurality of time  
21 periods of the sequential plurality of time periods;

22                    cause steps a and b to be repeated so that at least some of the bits transmitted  
23                    during one of the second subplurality of time periods are output from the  
24                    second data rate buffer.

1    47.    (NEW) The apparatus as recited in claim 46, further comprising a time division  
2           multiplexer configured to generate the output bit stream by time division multiplexing at  
3           least the first data stream and second data stream.

1    48.    (NEW) The apparatus as recited in Claim 46, wherein all bits transmitted during any of  
2           the second subplurality of time periods are output from the second data rate buffer.

1    49.    (NEW) The apparatus as recited in Claim 46, wherein the first subplurality of time  
2           periods includes every other time period of the sequential plurality of time periods.

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